

**REMARKS**

Claims 1-20 were examined in the Office Action mailed March 24, 2005.

The Applicants have amended independent claims 1, 10 and 20 to incorporate dependent claim limitations, and made conforming amendments canceling claims 2-4, without prejudice to the subject matter therein.

The following rejections and objections are currently pending:

- Provision of a drawing illustrating the subject matter of the application is required.
- Claims 2-7 for lack of enablement under 35 U.S.C. § 112, first paragraph, regarding how the act of applying a pressure differential is performed.
- Claims 5 and 7 as indefinite under 35 U.S.C. § 112, second paragraph regarding the meaning of the term "boundary condition."
- Claims 1, 8-11, 13-14 and 19-20 as anticipated under 35 U.S.C. § 102(b) by European patent document EP 0 745 499 A2 ("Garrett" *et al.*).
- Claims 1, 8-14, 18 and 20 as anticipated under § 102(b) by U.S. Patent No. 5,540,208 to Kikutani ("Kikutani").
- Claims 1-4 as unpatentable under 35 U.S.C. §103(a) over admitted prior art, in view of U.S. Patent No. 2,375,834 to Walker ("Walker").
- Claims 1-3, 5 and 7 as unpatentable under §103(a) over admitted prior art, in view of U.S. Patent No. 3,693,915 to Ulanovsky ("Ulanovsky").
- Claims 16-17 as unpatentable under §103(a) over Kikutani in view of admitted prior art.

**Drawing Objection:** In accordance with the Examiner's request, the Applicant has attached hereto for Examiner approval a new Fig. 1, schematically illustrating an embodiment of the present invention. Conforming amendments to added element numbers to Specification paragraphs [0012] and [0013], and to add a brief description of Fig. 1, have also been made. The Applicant respectfully submits no new matter has been added, as the Fig. 1 drawing merely illustrates

an embodiment already discussed in the present specification. Approval of the proposed new Fig. 1 is respectfully requested.

**Claim Objection:** In accordance with the Examiner's helpful suggestion, the Applicant has amended claim 8 to insert the missing word "gas."

Withdrawal of the pending claim objection is respectfully requested.

**Sec. 112, First Paragraph Rejection:** The Applicant respectfully traverses the rejection of claims 2-7 as not enabled under § 112, first paragraph, regarding how the act of applying a pressure differential is performed.

The Applicant notes that the specification specifically teaches at least *five* approaches to creating the required pressure differential, including:

- supplying engine exhaust gas to the interior of the tank capsule (§ [0013]);
- use of an overpressure-generating pump system "such as a blower or a pump that is driven preferably by an electric motor" or "an already existing pump system" such as an engine turbocharger (§ [0019]);
- application of a vacuum to the capsule, for example, with the vacuum generated in the intake of an engine (§ [0019]), by use of a suction pump (§ [0020]) or use of a vacuum-generating boil-off burner (§ [0020]);
- convection flow within the capsule (§ [0021]); and
- stagnation pressure increase due to vehicle motion (*i.e.*, gas compression due to inertia as the vehicle accelerates/decelerates) (§ [0021]).

In view of the foregoing, the Applicant respectfully submits that the original Specification is more than sufficiently definite with respect to informing one of ordinary skill in the art how to practice the present invention without undue experimentation, particularly where the providing of lines to introduce the rinsing medium into the capsule (whether exhaust flow or another rinsing medium) would be well within the knowledge of one of ordinary skill.

Accordingly, reconsideration and withdrawal of the pending § 112, first paragraph rejection is respectfully requested.

**Sec. 112, Second Paragraph Rejection:** The Applicant respectfully traverses the rejection of claims 5 and 7 as indefinite under § 112, second paragraph regarding the meaning of the term “boundary condition” on the grounds this term, viewed in the context of the claims and the written disclosure, is readily comprehended by one of ordinary skill in the art, *i.e.*, one of ordinary skill “would understand what is claimed when the claim is read in light of the specification.” MPEP § 2173.02 (citing *Orthokinetics, Inc. v. Safety Travel Chairs, Inc.*, 806 F.2d 1565,1576 (Fed. Cir. 1986)).

At paragraph [0014], the Specification notes that the interior space may be vented regularly “in order to rule out that ... [a] dangerous quantity of gases collects in the interior if the capsule.” This regular venting is taught to be performed as a function of at least one a predetermined limit (“at least one boundary condition”), such as, as recited in claim 7, “a predetermined gas concentration” within the capsule, or as suggested in paragraph [0014], a predetermined time interval. The Applicant respectfully submits that § 112, second paragraph does not require the identification of most or all of the possible parameters for triggering venting in order for the limitations of claims 5-6 to be considered sufficiently precise; rather, as long as one of ordinary skill in the art can understand “the metes and bounds of the claim so as to understand how to avoid infringement,” the claim is sufficiently definite. *Id.*, (citing *Morton Int’l., Inc. v. Cardinal Chem. Co.*, 5 F.3d 1464, 1470 (Fed. Cir. 1993)). Here, the specification teaches control of the venting of the capsule interior space when a

predetermined condition is met – a concept plain on its face to one of ordinary skill, *i.e.*, one of ordinary skill would be readily able to determine whether a potentially infringing system falls within the scope of the claims, simply by determining whether the potentially infringing system controls interior venting in response to meeting a predetermined condition.

Because the scope of the claims is sufficiently definite to permit determining their scope, the Applicant submits the language of claims 5 and 7 is sufficiently definite. Reconsideration and withdrawal of the pending § 112, second paragraph rejection is respectfully requested.

Sec. 102(b) Rejections: The Applicant respectfully traverses the rejection of claims 1, 8-11, 13-14 and 19-20 as anticipated under § 102(b) by Garrett, and of claims 1, 8-14, 18 and 20 as anticipated by Kikutani. on the grounds that these references do not disclose the embodiments of the present invention recited in these claims.

As amended, claim 1 recites, *inter alia*, that the capsule interior space is between space between the capsule and the tank (“where the capsule interior space is a space between a inside wall of the capsule and an outside wall of the storage container therein”), and the application of a pressure differential to a gas in the capsule interior space is “with a rinsing medium to cause a gas in the capsule interior space to be exhausted from the capsule, wherein the rinsing medium is a vehicle internal combustion engine exhaust gas.” Claim 1.

The Garrett reference discloses the purging of gas from the vapor space H within the storage tank. Garrett also teaches venting of excess gas generated from vaporization of the fuel tank’s LNG contents. There is no

teaching or suggestion of the use of a rinsing medium to purge fuel vapors, let alone either the use of engine exhaust gases for this purpose, or the purging of gas leakage into the space between the fuel tank and its surrounding capsule. Kikutani similarly teaches a system for venting in-storage-tank-generated gases, without any disclosure or suggestion of use of a rinsing medium.

Because Garrett and Kikutani both fail to disclose all the features of the independent amended claims 1, 10 and 20, these claims and their respective dependent claims 8-9, 11-14 and 18-19 are patentable under § 102(b) over these references.

Sec. 103(a) Rejections: The Applicant respectfully traverses the rejections of claims 1-4 as unpatentable under § 103(a) admitted prior art, in view of Walker, claims 1-3, 5 and 7 as unpatentable over admitted prior art, in view of Ulanovsky, and claims 16-17 as unpatentable over Kikutani in view of admitted prior art.

Walker: Walker is cited as teaching a method for inerting a fuel tank using exhaust gases. March 24, 2005 Office Action at 7. Walker, like the other cited art, is directed to in-tank gas management. There is no teaching or suggestion in Walker or the other cited art of use of a rinsing medium, including an engine exhaust gas, to vent claim 1's interior space "between a inside wall of the capsule and an outside wall of the storage container therein."

There also is no teaching or suggestion in Walker of claim 1's requirement for "treating the gas from the capsule interior space to reduce its environmental impact." It is stated in the Office Action that the mixing of the inert gas to reduce its combustibility "reduces the environmental impact of the

fuel vapor. However, the mere mixing of an inert gas with the fuel vapors does not reduce its environmental impact, as there is no chemical reaction which renders the fuel vapors less harmful; indeed, as soon as the vapors are released to the atmosphere, they are available to disperse from the inert gas molecules in their original, untreated, environmentally harmful form. In fact, contrary to the assertion in the Office Action, suppression of combustion is *not* an environmental benefit, but would be *preferred*, as this would convert the hydrocarbon fuel molecules into relatively harmless substances (water, carbon, dioxide, etc.).

Because walker fails to teach or suggest the claim 1's use of a rinsing medium to vent an interior space "between a inside wall of the capsule and an outside wall of the storage container therein," and further fails to teach or suggest "treating the gas from the capsule interior space to reduce its environmental impact," claims 1-4 are patentable under section § 103(a) over this reference.

Ulanovsky: Like Walker, Ulanovsky also teaches combustion suppression within a fuel tank, without any teaching or suggestion regarding venting of claim 1's capsule interior space, or any sort of treatment of the fuel vapors to reduce their environmental impact prior to release into the atmosphere. Thus, for the same reasons as with Walker, claims 1-3, 5 and 7 are patentable under § 103(a) over this reference,

Kikutani: Finally, Kikutani is cited as suggesting claims 16-17's use of engine vacuum to generate a pressure differential and use of the engine as a burner to treat the gas to reduce its environmental impact. Office Action at 9-10.

As noted above, Kikutani fails to disclose or suggest all the features of amended claim 10, the independent claim from which claims 16-17 depend. Because Kikutani does not teach or suggest all the features of independent claim 10, this reference cannot render claims 16-17 unpatentable under § 103(a).

In view of the foregoing, the Applicant respectfully request reconsideration and withdrawal of the pending § 103(a) rejections.

### CONCLUSION

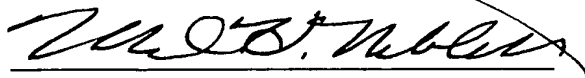
In view of the foregoing amendments and remarks, the Applicant respectfully submits that claims 1 and 5-20 are in condition for allowance. Early and favorable consideration, and issuance of a Notice of Allowance for these claims is respectfully requested.

If there are any questions regarding this amendment or the application in general, a telephone call to the undersigned would be appreciated since this should expedite the prosecution of the application for all concerned.

If necessary to effect a timely response, this paper should be considered as a petition for an Extension of Time sufficient to effect a timely response, and please charge any deficiency in fees or credit any overpayments to Deposit Account No. 05-1323 (Docket #080437.52819US).

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Respectfully submitted,



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**IN THE DRAWINGS:**

Examiner approval of the attached new Fig. 1 is respectfully requested.